

6. (previously presented): An apparatus according to claim 5, wherein the length of the hydraulic tubes is chosen in accordance with the flexural stiffness of the tubes.

REMARKS/ARGUMENTS

The Examiner's attention to the present application is noted with appreciation.

Claims 1-6 remain in this application. Claims 1, 3, 4, and 5 have been amended. Claim 1 adds features previously found in claims 3 and 4, and claims 3, 4, and 5 have been amended to coincide with the changes made to claim 1.

In the Office Action dated September 11, 2003, the Examiner rejected claims 1 - 6 under 35 U.S.C. 103(a). The bases for the Examiner's rejections were as follow. Claims 1 and 2 were deemed unpatentable over Moreau et al. ("Moreau") in view of Lund and over Moreau in view of Murakami et al. ("Murakami"). Claim 3 was deemed unpatentable over Moreau in view of Lund, and further in view of Zollinger et al. ("Zollinger"). Claim 3 was also deemed unpatentable over Moreau in view of Murakami, and further in view of Zollinger. Claim 4 was deemed unpatentable over Moreau in view of Lund and Zollinger, and further in view of Marvin et al. ("Marvin"). Claims 5 and 6 were deemed unpatentable over Moreau in view of Lund, Zollinger and Marvin, and further in view of Wernicke. Claims 5 and 6 were also deemed unpatentable over Moreau in view of Murakami, Zollinger and Marvin, and further in view of Wernicke. Those rejections are respectfully traversed, particularly in light of the current amendments.

In response to the rejections of claim 1, Applicant submits that neither Moreau, Lund, nor Murakami, alone or in combination, disclose that the reel for winding the cable on and off is placed behind the measuring head at its distal end and that the measuring head and the reel are each individually incorporated in carrier members moveable through the pipe or tube, which members are sequentially

interconnected by means of flexible couplings. Applicant's claim 1, as amended, is therefore different from Moreau, Lund, and Murakami and is allowable on that basis.

Further, Lund discloses a single device to carry a measuring head and a coil following the measuring head from which a fiber cable is wound on and off. Lund does not relate to the inspection of small diameter pipes and tubes as is the case in both Moreau and the instant application. The latter relate to small diameter pipes used in, for example, power generating nuclear stations. The former relates to large diameter pipelines for carrying fluids over considerable distances such as those used in the oil and gas industries. Given the requirements of the different industries/applications, it would therefore not have been obvious to combine Moreau and Lund.

For example, even if one combines Moreau and Lund, the present invention useable in small diameter pipes would not be the result. At best, Lund suggests placing the winding reel for the cable at the distal end behind the measuring head. Applying that teaching to Moreau would mean placing the winding reel of Moreau at the distal end behind the measuring head. That approach is not feasible in light of the dimensions of the winding reel Moreau et al. require in order to provide a cable of sufficient length. The winding reel of Moreau modified by Lund would not fit within the smaller tube to be inspected. Placing the winding reel at the distal end is further prohibitive because Moreau et al. apply guiding elements on the cable which collectively must be wound on the winding reel. This would result in the reel's dimensions being incompatible with the smaller tubes to be inspected.

Because the measuring head and the reel of the present invention are each individually incorporated in carrier members that are sequentially interconnected by means of flexible couplings, the dimensions must be small enough to be used for the internal inspection of small diameter pipes and tubes. The present invention makes possible an apparatus that can pass multiple sharp bends in the inspected pipes and tubes which would not be possible if the measuring head and reel were disposed on the same carrier as disclosed by Lund.

The device of Murakami, too, relates to the inspection of large diameter tubes and pipes. Unlike the present invention, Murakami et al. disclose a carrier for both the measuring head and reel, together, and do not disclose flexible couplings. Therefore, the same problems discussed above with respect to Lund apply to Murakami.

Finally, with respect to both claim 1 and claim 3, Applicant notes that Zollinger et al. do not teach individual carrier members – specifically, there is no suggestion in Zollinger that the measuring head and the reel should be placed on individual carrier members sequentially interconnected by means of flexible couplings. The reel of Zollinger is placed in a carrier, but there is no hint that it is placed individually in a separate carrier.

Regarding claims 2 - 6, those claims are dependent on claim 1 which is believed to be allowable for the reasons discussed above. Moreover, regarding claim 4, Marvin et al. teach a device that does not comprise a cable for routing data. The device of Marvin is incompatible with the teachings of Moreau, Lund, and Zollinger in that Marvin et al. teach away from using a reel. For the reasons discussed above, the dependent claims also are allowable.

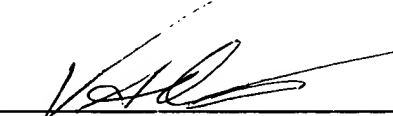
In view of the above amendments and remarks, it is respectfully submitted that all grounds of rejection and objection have been traversed. It is believed that the case is now in condition for allowance and same is respectfully requested.

If any issues remain, or if the Examiner believes that prosecution of this application might be expedited by discussion of the issues, the Examiner is cordially invited to telephone the undersigned attorney for Applicant at the telephone number listed below.

Authorization is given to charge payment of any additional fees required to Deposit Acct. 13-4213.

Respectfully submitted,

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